

Amendment

Please add claim 9 as follows:

2 b (New). The method of claim 1, wherein the supplementary pressure is determined by  
identifying pressure gradients within the region, said region being characterized by a  
seismic image, said seismic image comprising a stacked time section representing  
horizons within said region, comprising:

- a) picking a first selected horizon from said seismic image;
- b) calculating a set of instantaneous amplitudes and frequencies for said first  
selected horizon;
- c) determining the average amplitude and frequency of said set of  
instantaneous amplitudes and frequencies;
- d) identifying pressure gradients associated with said instantaneous amplitudes and  
frequencies to generate a pressure gradient map, said pressure gradients  
corresponding to points at which said instantaneous amplitudes and frequencies vary  
from said average amplitude and frequency, wherein points at which said instantaneous  
amplitudes and frequencies are less than said average amplitude and frequency  
correspond to locations of relatively low pressure.

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